

**Amendments to the Drawings:**

The attached replacement drawing sheet makes changes to Fig. 11 and replaces the original sheet with Fig. 7 and 11.

Attachment: Replacement Sheet

**REMARKS**

Claims 1-8 are pending in this application. By this Amendment, the drawings and claim 1 are amended. No new matter is added.

**I. Personal Interview**

The courtesies extended to Applicants' representative by Examiner Thompson during the interview held May 11, 2005, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

**II. Drawings**

Fig. 11 is objected to under MPEP § 608.02(g) for failing to contain the appropriate legend. As Fig. 11 is amended, withdrawal of the objection is respectfully requested.

**III. Claim Rejections Under 35 U.S.C. §112**

Claims 1-8 are rejected under 35 U.S.C. §112, second paragraph. Specifically, the Office Action alleges that language in claim 1 is indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As claim 1 is amended in reply to the rejection, withdrawal of the rejection of claims 1-8 under 35 U.S.C. §112, second paragraph, is respectfully requested.

**IV. Claim Rejections Under 35 U.S.C. §102**

Claims 1 and 4 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,929,611 to Scott et al. The rejection is respectfully traversed.

Scott fails to disclose each and every feature recited in the rejected claims, as amended. For example, Scott fails to disclose an ac generator for a vehicle, comprising...one of the positive electrode side rectifying element and negative electrode side rectifying element connected to at least a portion of the plurality of phase-windings is constituted of a single

element and the other is constituted of a parallelly connected two elements that equally divide a current flowing therethrough.

In rejecting claims 1 and 4, the Office Action alleges that Scott discloses a rectifying unit as recited in the rejected claims. In support of the rejection, the Office Action relies on Fig. 7C.

Scott relates to a lightweight portable electrical generator (col. 1, lines 14 and 15). Thus, Scott does not disclose an ac generator for a vehicle, as recited in the rejected claims.

The portable generator disclosed in Scott includes a generator unit 14 comprising a stator 210, a rotor 220, a first rectifier 706 and a second rectifier 700. The rectifier 706 comprises a diode bridge with the diodes sized to withstand a short circuit output greater than that capable of being produced within the power limitations of the engine 12 (col. 6, line 66 - col. 7, line 3).

As shown in Fig. 7C of Scott, the rectifier 706 is SCR controlled (silicon-controlled rectifiers) that cooperate with the control circuit 712 (col. 7, lines 50-54). The negative block of rectifier 706 includes three SCR's receptive of control signals from the control circuit 712. The control circuit 712 selectively enables SCR's 704 to permit current flow to the negative pole of the circuitry (col. 8, lines 9-13). Such SCR's are not diodes. Rather, the SCR's are three-terminal devices that are gate connected. In contrast, a diode has 2 terminals (anode and cathode). The SCR's 704 are not parallelly connected but rather are gate-connected (see the attached SCR tutorial of American Microsemiconductor.) Thus, Scott does not disclose "parallelly connected two elements that equally divided current flowing therethrough."

Further, even if the SCR were diodes, the diodes are connected to a three-pole double-throw switch for the negative side rectifying unit that has a gate to which a gate-connected diode is connected. The gate-connected diode only passes gate current whose amount is usually much smaller than the current flowing through the three-pole double-throw switch.

Thus, Scott fails to disclose one of the positive electrode side rectifying element and the negative electrode side rectifying element are connected to at least a portion of the plurality of phase-windings. Rather, the rectifying elements are merely connected to the three-pole double-throw switch 704.

Additionally, Scott fails to disclose that one of the positive electrode side rectifying elements and the negative electrode side rectifying elements that are connected to at least a portion of the plurality of phase-windings are constituted of a single element and the other is constituted of parallelly connected two elements that equally divide current flowing therethrough. Accordingly, Scott fails to disclose each and every feature recited in the rejected claims. Thus, withdrawal of the rejection of claims 1 and 4 under 35 U.S.C. §102(b) is respectfully requested.

Claims 1 and 4 are also rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,383,215 to Frister. The rejection is respectfully traversed.

Frister relates to a dc mobile, self-contained power supply system in which an alternator supplies power to a rectifier to charge a battery, typically for the on-board electrical network of a vehicle, a boat, or the like (col. 1, lines 5-10). Frister fails to disclose a rectifying unit formed by a bridge circuit which includes positive electrode side rectifying elements and negative electrode side rectifying elements respectively connected to the plurality of phase-windings wherein one of the positive electrode side rectifying element and negative electrode side rectifying element connected to at least a portion of the plurality of phase-windings is constituted of single element and the other is constituted of parallelly connected two elements that equally divide current flowing therethrough.

Rather, as may be seen in the figure of Frister, each of the positive side electrode rectifying elements and the negative electrode side rectifying elements are constituted only of a single element rather than constituted of a parallelly connected two elements. For example,

neither of the common diodes ZSD1 or ZSD2 are directly connected in parallel to each other. Rather, the common diodes are connected to the right or left rectifier (HGR) through a phase winding (PHW). Thus, neither of the common diodes equally divide current flowing therethrough. Accordingly, withdrawal of the rejection of claims 1 and 4 under 35 U.S.C. §102(b) is respectfully requested.

Claims 1-4 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 3,571,657 to Domann. The rejection is respectfully traversed.

Domann relates to electrical power supply systems for automotive vehicles that utilize a three-phase alternator having a field winding connected to a semi-conductor voltage regulator, the output of which is rectified by a full wave three-phase bridge rectifier connected to each phase of the alternator (col. 1, lines 4-10). Fig. 1 shows a circuit diagram of such a three-phase alternator in a three-phase bridge-type rectifier network together with the semi-conductor voltage regulator. As shown in the figure, the phase windings 2, 3 and 4 have phase terminals U, V and W that are connected over a rectifying element. Phase U is connected to silicon diodes 8 and 9 and Phase V is connected to silicon diodes 10 and 11. Phase W is connected to a pair of rectifying elements 12 and 13 which are zener-type diodes (col. 2, lines 20-32). Thus, Domann does not disclose that one of the positive electrode side rectifying element and negative electrode side rectifying element connected to at least a portion of the plurality of phase-windings is constituted of a single element and the other is constituted of parallelly connected two elements that equally divided current flowing therethrough. For example, common diode 23 is not directly connected in parallel to diode 8, but is connected in parallel to diode 8 through a lamp 40 and a switch 41. Thus, diode 23 and diode 8 cannot equally divide current flowing therethrough. As Domann fails to disclose each and every feature recited in the claims, withdrawal of the rejection of claims 1-4 under 35 U.S.C. §102(b) is respectfully requested.

**V. Claim Rejections Under 35 U.S.C. §103**

Claims 5-8 are rejected under 35 U.S.C. §103(a) as unpatentable under Domann in view of U.S. Patent No. 6,184,602 to Ooiwa et al. and U.S. Patent No. 3,739,209 to Drabik. The rejection is respectfully traversed.

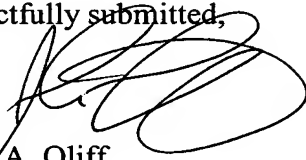
None of the applied references, whether considered alone or in combination, disclose or suggest each and every feature recited in the rejected claims. Furthermore, claims 5-8 are allowable for their dependency in independent claim 1 for the reasons discussed above, as well as for the additional features recited therein. As neither Ooiwa or Drabik overcome the deficiencies of Domann, withdrawal of the rejection of claims 5-8 under 35 U.S.C. §103(a) is respectfully requested.

**VI. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

  
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JAO:JWF/ldg

Attachments:

Petition for Extension of Time  
Replacement Sheet  
American Microsemiconductor

Date: May 12, 2005

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